



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX**

**75 Hawthorne Street
San Francisco, CA 94105**

Via Electronic and U.S. Postal Service Mail

February 13, 2013

Mr. Spence Leslie
Tyco Thermal Controls, Inc.
307 Constitutional Drive
Menlo Park, CA 94205
[spence.leslie@pentair.com]

Re: Polychlorinated Biphenyls (PCBs), Toxic Substances Control Act (TSCA) [40 CFR 761.61(a) and (c)] - USEPA Approval of Remedial Action Completion Report Phase II Tyco Thermal Controls LLC, 2201 Bay Road, Redwood City, California (RACR or PCB Cleanup Report)

Dear Mr. Leslie:

The U.S. Environmental Protection Agency Region 9 (USEPA) has reviewed the subject RACR (PCB Cleanup Report) dated November 5, 2012, prepared by SCS Engineers (SCS) and AMEC for Tyco Thermal Controls, LLC (TTC). USEPA has also reviewed the January 21, 2013 Revision 1 to the RACR that it received on January 22, 2013. The RACR documents PCB cleanup activities conducted within the boundaries of the former TTC Site (Tyco or Site) located at 2201 Bay Road, Redwood City, California.

USEPA has reviewed the RACR to determine if the PCB cleanup conducted by TTC is consistent with USEPA's approval issued to TTC on January 4, 2011 (Original Approval¹) as amended by subsequent USEPA approvals dated April 7, 2011, January 26, 2012, August 24, 2012, September 26, 2012, and October 12, 2012 (the Subsequent Approvals²), and applicable TSCA PCB regulations. In general, TTC

¹ USEPA January 4, 2011 Original Approval: USEPA Conditional Approval Under 40 CFR 761.61(a) and (c) of PCB Cleanup Notification and Work Plan Dated June 14, 2010 for Tyco Thermal Controls, 2201 Bay Road, Redwood City, California.

² The Original Approval was modified by the following USEPA Subsequent Approvals requiring TTC to complete among other work, additional sampling and construction of two caps within the Tyco Site. These caps are the Northern Boundary and Northeastern Boundary Caps, beneath which PCB-contaminated soils remain above the cleanup level.

Subsequent Approval Letters:

a) USEPA April 7, 2011 Approval: Former Tyco Thermal Controls Facility in Redwood City, California – Revised Work Plan Additional Paint Sampling Locations and Pilot Test – Building Demolition Pre-Implementation of Toxic Substances Control Act PCB Cleanup Approval.

b) USEPA January 26, 2012 Approval: Polychlorinated Biphenyls (PCBs) Under Toxic Substances Control Act – USEPA Region 9 Conditional Approval under 40 CFR 761.61(c) and – Sampling and Analysis Plan, Tyco Thermal Controls, LC, 2201 Bay Road, Redwood City, California.

c) USEPA July 14, 2011 Approval: Clarification of USEPA Region 9 April 7, 2011 Revised Work Plan Letter

d) USEPA August 24, 2012 Approval: Toxic Substances Control Act (TSCA), Polychlorinated Biphenyls (PCBs) – USEPA Region 9 Conditional Approval under 40 CFR 761.61(c) - Tyco Thermal Controls Application Amendment #1 (Protective Multi-Media Cap).

e) USEPA September 26, 2012 Approval: Toxic Substances Control Act (TSCA), Polychlorinated Biphenyls (PCBs) – USEPA Region 9 Conditional Approval under 40 CFR 761.61(c) - Tyco Thermal Controls Application - Amendment #2 (Protective Multi-Media Cap).

has completed the cleanup of soils contaminated with PCBs within the boundaries (onsite) of the Tyco Site. An exception to this is that soils contaminated with PCBs remain onsite above the cleanup level beneath the Northern Boundary and Northeastern Boundary Caps.

Consistent with Condition 13 of the Original Approval, this letter approves the RACR (See Section A below) under the condition that an amended RACR responsive to the modifications described in this letter be submitted within thirty (35) days after the date of this letter. This conditional approval of the RACR will become final and effective within fifteen (15) days after USEPA receives the amended RACR. However, such approval will not become final and effective if USEPA provides TTC a written notice indicating the amended RACR did not meet the requirements of this conditional approval along with further instructions as to how to amend or modify the RACR.

In addition, PCB contamination has extended beyond the northern boundary of the Tyco Site and may have also extended beyond the northeastern boundary of the Site. That PCB contamination still has to be properly characterized and remediated. USEPA will address this matter in a future separate letter to be addressed to Tyco and/or other parties.

A. Conditional Approval of the RACR as Revised by the January 21, 2013 Revision 1

The RACR consists of the main text and several appendices. USEPA is approving Appendix E (AMEC – PCB Remediation Verification Report . . .), Appendix I (Monitoring & Maintenance Plan, Protective Multimedia Cap Areas), and the Main Text to the RACR and RACR Revision 1 with the required modifications described by this letter. USEPA considers the remaining appendices of the RACR as supporting documentation regardless of those being referenced in the Main Text, Appendix E, or Appendix I.

1. General - Cleanup requirements and capped areas with soils exceeding the cleanup level

Notwithstanding the required modifications (described below), in general, TTC met the cleanup requirements established in USEPA's January 4, 2011 Original Approval as amended by the Subsequent Approvals. In those Approvals USEPA established a PCB cleanup level for soil and concrete equal to 0.74 milligram/ kilogram (mg/kg) total PCBs (as Aroclors). This PCB concentration is USEPA's Regional Screening Level for PCBs in soils and equates to a 10^{-6} cancer risk assuming an industrial exposure scenario. According to the information presented in Appendix E, the PCB cleanup level was met within the Tyco Site except in two areas that are capped: the Northern Boundary and Northeastern Boundary Caps.

f) USEPA October 12, 2012 Approval: Toxic Substances Control Act (TSCA), Polychlorinated Biphenyls (PCBs) – USEPA Region 9 Conditional Approval under 40 CFR 761.61(c) - Tyco Thermal Controls Application - Revised Amendment #2 (Protective Multi-Media Cap).

g) USEPA November 19, 2012 Letter: Toxic Substances Control Act (TSCA), Polychlorinated Biphenyls (PCBs) – Tyco Thermal Controls November 5, 2012 Remedial Action Completion Report Phase II (PCB Cleanup Report).

Comparison of individual soil verification sample analysis results for Area EX4A to the PCB cleanup level demonstrated the cleanup level was achieved in that area. For areas within the Tyco Site with individual soil cleanup verification sample results exceeding the PCB cleanup level, the calculated 95% upper confidence limit (UCL) of the mean of that soil data demonstrated the cleanup level was achieved in those areas. The UCL was calculated using USEPA's Pro-UCL statistical program. Analytical results for soils beneath the capped areas were not used in the Pro-UCL calculations.

In addition, due to the age of the PCB releases and to confirm the protectiveness of the established PCB Aroclor-based cleanup level, USEPA required that several soil cleanup verification samples be analyzed for dioxin-like PCB congeners (PCB congeners). TTC conducted statistical analysis and correlation of the PCB congener data to the total PCB Aroclor data. TTC's evaluation demonstrated the 0.74 mg/kg total PCBs (as Aroclors) cleanup level is protective for the Tyco Site. The cancer risk estimate for PCBs based on analysis of PCB congeners is 10^{-6} . The total cancer risk estimate for all PCBs combined (as Aroclors and congeners) did not exceed 10^{-5} .

However, onsite soils with PCB concentrations above the 0.74 mg/kg PCB cleanup level remain at the site beneath two capped areas. Based on the RACR, PCBs remain in soils up to 3,040 mg/kg and 56 mg/kg beneath the Northern Boundary Cap and Northeastern Boundary Cap (Cap Areas), respectively. Groundwater, encountered at 8 feet below ground surface (bgs) is in contact with the capped PCB-contaminated soils.

B. Modifications to Be Made to the RACR

1. **Clarification as to scope of cleanup.** TTC shall amend the RACR to clearly specify that it covers onsite cleanup activities alone, and such cleanup does not extend to PCB contamination that has migrated offsite (beyond the Tyco Site boundaries). That PCB contamination still has to be remediated and USEPA will address this matter in a separate letter(s) to TTC and/or other parties.

2. Modifications to Appendix E

- a. **Appendix E, Page 3, Section 3.1 (Additional Concrete and Soil Characterization), 3rd bullet.** TTC shall delete the following sentence from Appendix E: *"Consistent with U.S. EPA Condition 5.d (U.S. EPA, 2011) and U.S. EPA Condition 6 (U.S. EPA, 2012a), a soil sample was collected from the stockpile of soil generated by removing the footing."*

The above sentence is inconsistent with USEPA's approvals dated January 4, 2011 and January 26, 2012. These approvals did not authorize the use of analytical results for samples from stockpiled soils to determine the PCB concentration for disposal purposes. In addition, this sentence is inconsistent with the requirement in 40 CFR 761.61 that cleanup and disposal of PCBs be based on the concentration at which PCBs are found (i.e., in-situ or as-found PCB concentrations).

- b. **Appendix E, Page 6, Section 5.1 (Additional Concrete and Soil Characterization), 3rd bullet. Comment.** Only one soil sample was collected from the stockpile and the PCB concentration reported as 0.79 mg/kg PCBs. This is not the in-situ concentration of the soils removed from the excavation. Tyco's approach is inconsistent with the TSCA PCB anti-dilution requirements in 40 CFR 761.1(b)(5).
- c. **Appendix E, Page 9, Section 5.3 (Dioxin-Like PCB Congener Results); Table 9 (Summary of Total Aroclor and Dioxin TEQ Results Used in Regression Analysis) and Table 10 (Regression Analysis Statistics – Total Aroclors vs. Dioxin TEQ).** TTC shall delete Section 5.3 in its entirety and associated Tables 9 and 10 from Appendix E in the November 5, 2012 RACR. TTC shall replace Section 5.3 of Appendix E (November 5, 2012 version) with the *"Addendum No. 1 to the PCB Remediation Verification Report Additional Analyses of Total Aroclors versus Dioxin-Like PCB Congeners . . ."* (Addendum No.1) dated January 2013 and submitted by SCS Engineers as part of Revision 1 to the RACR.

3. Modifications to Appendix I

- a. **Relationship to Land Use Covenant.** The January 21, 2013 version of Appendix I include monitoring, maintenance, and repair procedures for the two Cap Areas and schedules to conduct these activities. Land use restrictions for the Cap Areas as well as, monitoring, maintenance, and repair of these areas and schedule to conduct the same have been established in the *"Covenant to Restrict Use of Property Environmental Restriction {Re: APN 054-022-150 Lot 4, Block 4} Tyco Thermal Controls, LLC"* (Land Use Covenant).

TTC shall clearly state in the amended Appendix I that in case of conflict or differences between the Land Use Covenant and the Revised Appendix I, the Land Use Covenant supersedes and take precedent over Appendix I.

- b. **Section 1.1, Purpose, 2nd Paragraph.** TTC shall clearly specify in Section 1.1 that, in addition to restricting the use of Cap Areas, the covenant restricts the entire Tyco Site to industrial/commercial land uses. TTC shall delete from the second paragraph in Section 1.1 the following sentence: *"Areas are to be maintained as Industrial/Commercial use ideally suited for landscape, asphalt parking or driveway use."* This deletion must be made for clarity and consistency with the Land Use Covenant as filed.
- c. **Section 1.2.1, Site Description, 2nd Paragraph.** Refer to the clarification for Section 1.1 above. Land use covenant restrictions apply to the entire Tyco site (or property) which is inclusive of the Cap Areas.

4. Modifications to RACR, Main Text

- a. **Page 3, Section 4 (Removal Action Objective).** USEPA required TTC to conduct the PCB cleanup at the Tyco Site under TSCA consistent with the TSCA PCB regulations in 40 CFR

761.61(a) and (c) and USEPA's Original Approval, as subsequently amended. Consistent with TSCA, USEPA established the PCB cleanup level for the Tyco Site in its Original Approval with conditions. The cleanup level is also consistent with the San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels for PCBs. Refer to USEPA's Original Approval for details. Therefore, TTC shall delete the following sentences from Section 4 in the Main Text of the November 5, 2012 RACR and January 2013 Revision 1 to the RACR:

"The remediation work described herein was completed voluntarily by Tyco."

"The cleanup goal for PCBs in soil was established by Tyco at 0.74 milligrams per kilogram (mg/kg) based on the Environmental Screening Level (ESL) developed by the SFBRWQCB, and USEPA Region 9 Regional Screening Levels (RSLs) for industrial/commercial land-use and TSCA."

- b. **Page 9, Section 10 (Excavation and Removal Activities), Dust Control.** USEPA was not involved with the approval of a dust control plan for soil remediation at the Tyco Site and TTC shall indicate that in the RACR. However, USEPA reviewed the dust monitoring results included in the RACR and does not have any concerns with those results.
- c. **Page 12, Soil Management.** This section of the RACR states that: *"Soils were separated and staged in areas based on pre-excavation soil sampling data and Waste Management profiles."* This is inconsistent with Sections 3.1 (Additional Concrete and Soil Characterization) and 5. 1 (Additional Concrete and Soil Characterization) in Appendix E of the RACR. Those two Sections refer to stained soil excavated from below an on-site building footing and stockpiled before sampling the stained soil in situ. TTC shall reconcile this inconsistency.
- d. **Page 12, Material Characterization and Disposal.** The RACR states that *"[t]rucks were visually inspected before leaving the Site and any dirt adhering to the exterior surfaces was removed."* However, the method used for removal of the dirt and ultimate disposition of that material and decontamination waste is not discussed. TTC shall discuss this matter in the amended RACR.

In addition, the RACR states that *"[a] street sweeper was used on the surface streets surrounding the Site on those days when materials were removed from the Site."* However, the disposition of dust removed by the street sweeper and decontamination of the street sweeper and disposition of decontamination waste is not discussed. TTC shall discuss this matter in the amended RACR.

- e. **Page 14, Section 11 (Monitoring & Maintenance for Protective Cap Areas) November 5, 2012 RACR and Page 14, Section 11, RACR January 21, 2013 Revision 1.** TTC shall modify Section 11 of the RACR by updating the following sentence to account for the modifications been made to the RACR: *"Also, in accordance with Application Amendment #1 – Protective Multi-Media Cap (SCS, 2012b) and Application Amendment #2 – Protective Multi-Media Cap in*

portion of Area 4 (SCS. 2012c), a Cap Areas Monitoring & Maintenance Plan (M&M Plan) has been prepared and is located in Appendix I of this RACR."

C. Post PCB Cleanup Requirements Contained in the Land Use Covenant

This letter also serves as a reminder to TTC that it must comply with the following post-cleanup requirements established in the previous Approvals and in the *"Covenant to Restrict Use of Property Environmental Restriction {Re: APN 054-022-150 Lot 4, Block 4} Tyco Thermal Controls, LLC"* (Land Use Covenant) for the Tyco Site.

- 1. Land Use Restrictions.** The Land Use Covenant, among other things, restricts the future use of the Site to industrial and commercial use. TTC is required to comply with all the terms of the Land Use Covenant, including the requirements to monitor, maintain, and repair in perpetuity the Northern and Northeastern Boundary Cap Areas under which PCBs remain at concentrations of up to 3,040 mg/kg and 56 mg/kg total PCBs, respectively. Condition 7.06 (Recordation) of The Land Use Covenant requires that USEPA be provided a copy of the recorded Covenant within 10 days after recordation. If recorded already, submit a copy of the recorded final Land Use Covenant within 5 days after the date of this letter.
- 2. Northern Boundary Cap and Northeastern Boundary Cap Areas.** Consistent with the requirements of the Land Use Covenant, USEPA is requesting that an inspection of the Cap Areas be conducted within 60 days after the date of this letter to ensure weather conditions have not affected or impaired the integrity of the Cap Areas. A report as that described in the Land Use Covenant must be submitted to USEPA within 15 days after completing the initial inspection. Subsequent inspections of the Cap Areas shall be conducted following the recorded Land Use Covenant requirements.

Consistent with the above review of the RACR, and the modifications this letter requires be made to the RACR, USEPA concludes that as of the date of this letter no further cleanup of PCBs is necessary within the Tyco Site boundaries. However, USEPA may require additional investigation and/or cleanup of PCBs if (1) a finding is made after the date of this letter that PCBs remain at the Tyco Site at concentrations above the 0.74 mg/kg total PCB cleanup level³ in areas excluding the Cap Areas; (2) the land use for the Tyco Site including the Cap Areas is changed to unrestricted use; and (3) the engineering controls associated with the Caps are cancelled or modified following the process in Condition 4.02b (under Condition 4.02, Restrictions within Cap Areas) of the Land Use Covenant.

If the land use designation for the Tyco Site or portion thereof is changed to unrestricted use, TTC or a subsequent owner must submit a request to USEPA for a modification to the Land Use Covenant and further cleanup would be required consistent with unrestricted uses to be protective of human health and the environment.

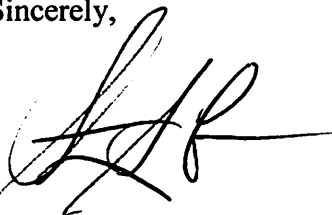
³ This determination will be made based on a statistical evaluation of new soil data using USEPA's Pro-UCL statistical program.

Mr. Spence Leslie
Tyco Thermal Controls, Inc.
Re: TSCA Risk-Based PCB Cleanup Report
Date: February 13, 2013

In concluding, the PCB cleanup completed within the boundary of the Tyco Site did not extend to PCB contamination that has migrated offsite (beyond the Tyco Site boundaries). That PCB contamination still has to be remediated and USEPA will address this matter in a separate letter(s) to TTC and/or other parties.

USEPA appreciates TTC's implementation and completion of the PCB cleanup within the boundaries of the former Tyco Thermal Controls facility in Redwood City, California (TTC Site) and looks forward to TTC's reply to this letter. If you have questions concerning this letter, please call Carmen D. Santos at 415.972.3360. Thank you.

Sincerely,

A handwritten signature in dark ink, appearing to read 'SA', with a long horizontal stroke extending to the right.

Steve Armann, Manager
RCRA Corrective Action Office
Waste Management Division

Cc Via Electronic Mail Only

Timothy Swickard, Esq.
tswickard@lbbslaw.com

Arthur Hui, TTC
Arthur.hui@pentair.com

Peggy Peischl, AMEC
peggy.peischl@amec.com

Lenard D. Long, SCS Engineers
llong@scsengineers.com

David Barr, SFB RWQCB
dbarr@waterboards.ca.gov

Ivan Lieben, USEPA R9
lieben.ivan@epa.gov

Carmen Santos, USEPA R9
santos.carmen@epa.gov